ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Air Permits Program

TECHNICAL ANALYSIS REPORT

For Air Quality Control Minor Permit No. AQ0068MSS01

Union Oil Company of California

KING SALMON PLATFORM

PORTABLE OIL AND GAS OPERATIONS (POGO) RELOCATION TO KING SALMON

Preparers: Sean D. Lowther and Patrick Dunn
Supervisor: Sally Ryan
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Abbreviations /Acronyms

Standard Permit Abbreviations and Acronyms

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASTM	American Society of Testing and Materials
BACT	Best Available Control Technology
C.F.R.	Code of Federal Regulations
EPA	Environmental Protection Agency
EU	Emission Unit
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RA	Relative Accuracy
RM	Reference Method
SN	Serial Number

Permit-Specific Abbreviations and Acronyms

UOCC	Union Oil Company of California
BACT	Best Available Control Technology
NAICS	North American Industry Classification System
NRE	Non-road engine
ORL	Owner Requested Limit
SIC	Standard Industrial Classification

Units and Measures

bhp	brake horsepower or boiler horsepower
gr./dscf	grains per dry standard cubic feet (1 pound = 7,000 grains)
dscf	dry standard cubic foot
gph	gallons per hour
kW	kilowatts
kW-e	kilowatts electric[1]
lbs	pounds
mmBtu	million British Thermal Units
ppm	parts per million
ppmv	parts per million by volume
tph	tons per hour
TPY	tons per year
wt%	weight percent

Pollutants

CO	Carbon Monoxide
HAPS	Hazardous Air Pollutants
H_2S	Hydrogen Sulfide
NO_X	Oxides of Nitrogen
NO_2	Nitrogen Dioxide
NO	Nitric Oxide
PM-10	Particulate Matter with an aerodynamic diameter less than 10 micrometers
SO_2	Sulfur Dioxide
VOC	Volatile Organic Compound

[1] kW-e refers to rated generator electrical output rather than engine output

1. INTRODUCTION

This Technical Analysis Report (TAR) provides the Alaska Department of Environmental Conservation's (Department's) basis for issuing Air Quality Control Minor Permit AQ0068MSS01 to the Union Oil Company of California (UOCC) for the King Salmon Platform in the Cook Inlet, Alaska. The Stationary Source ID is 68, and the SIC code is 1311, and the NAICS Code of the Stationary Source is 211111. The platform extracts crude oil and natural gas from reserves beneath the Cook Inlet.

Federal Prevention of Significant Deterioration (PSD) and Alaska air quality regulations designate the area adjacent to King Salmon Platform as Class II. The nearest Class I area is the Tuxedni National Wildlife Refuge, approximately 105 kilometers southwest of the platform.

The Department has classified the air quality surrounding the stationary source as in attainment or unclassified with respect to National Ambient Air Quality Standards (NAAQS) for particulate matter smaller than 10-micrometers (PM-10), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO).

2. PROJECT DESCRIPTION

In the spring or summer of 2008, UOCC intends to relocate a portable oil and gas operation (POGO) to the King Salmon Platform. As part of the project UOCC is requesting to place 29 temporary emission units on to the King Salmon platform, 26 are non-road engines and three are boilers. The three boilers do not qualify for non-road status.

3. PROJECT EMISSIONS SUMMARY

The Permittee calculated the permit applicability based on the emissions contained in **Table 1**. The emissions listed in Table 1 are the Potential to Emit (PTE) for each pollutant that a minor permit threshold exists in 18 AAC 50. The emissions from non-road engines do not count towards permit applicability thus the table contains only the emissions from the stationary emission units.

Table 1 –Minor Permit Applicability

Pollutant	Permit No. AQ0068MSS01 emission increase in TPY [A]	18 AAC 50.502(c)(3) Minor Permit Threshold in tpy	18 AAC 50.502(c)(3) Minor Permit Required?
NO_X	4.5	10	NO
SO_2	8.5	10	NO
CO	not within 100 miles of a non-attainment area	N/A	N/A
PM-10	0.2	10	NO

Table Notes:
A - non-road engine emissions are not included

4. DEPARTMENT FINDINGS

1. Based on a review of the application, the Department finds that the application satisfies the applicable requirements set out in 18 AAC 50.540.
2. This permit is classified under 18 AAC 50.502(c)(2)(A), relocation of a portable oil and gas operation.
3. The assessable PTE for the portable oil and gas operation is 601.5 TPY; however the PTE for minor permit applicability is 4.5 TPY for NO_X, 8.5 TPY for SO_2, and 0.2 TPY for PM-10.
4. The project is contained in a coastal district and the Permittee included a completed coastal project questionnaire with the application. The Department notified the local district and resource agencies of the project and the local district and resource agencies did not request additional ACMP review through 6 AAC 50.810.

5. PERMIT REQUIREMENTS

State regulations in 18 AAC 50.544 describe the elements that the Department must include in minor permits. This section of the TAR provides the technical and regulatory basis for the permit requirements in Minor Permit No. AQ0068MSS01, which is classified under 18 AAC 50.502(c)(2)(A).

5.1. General Requirements for All Minor Permits

As described in 18 AAC 50.544(a), each minor permit issued under 18 AAC 50.542 must identify the stationary source, the project, the Permittee, and contact information, and the requirement to pay fees.

The permit cover page identifies the stationary source, the project, the Permittee, and contact information as required in 18 AAC 50.544(a)(1). The permit contains a requirement to pay fees as required in 18 AAC 50.543(a)(2). This is a temporary project and the Department will not update the operating permit assessable emissions through this minor permit. The assessable

emissions for this project are 602 tpy, as shown in Table 2. UOCC must pay this assessable emission fee in addition to any fees required by the Title V permit. The Department notes that the PTE in the existing Title V permit for NO_X, CO, VOC, PM-10, and SO_2 are all above ten tons per year, so all of the emissions from this project are assessable.

Table 2 – Assessable Emissions

Pollutant	PTE[1] (TPY)	Assessable Emissions (TPY)
NO_X	352.4	352.4
CO	104.1	104.1
VOC	20	20
PM-10	43	43
SO_2	82	82
Total	601.5	601.5

Table notes:

1 - Full emissions output including non-road engines

5.2. Requirements for a Minor Permit for Air Quality Protection

As required under 18 AAC 50.544(c), each minor permit classified under 18 AAC 50.502(c) must contain

(1) terms and conditions as necessary to ensure that the source will not cause or contribute to a violation of an ambient standard,

(2) performance tests for state emission limits, and

(3) maintenance requirements according to the manufacturer's or operator's maintenance procedures.

5.2.1. Ambient Air Quality Analysis

Applications for portable oil and gas operations must include an ambient NO_2, SO_2 and PM-10 analysis per 18 AAC 50.540(c)(2) for minor permit applicants subject to 18 AAC 50.502(c)(2)(A). UOCC provided the required ambient NO_2, SO_2 and PM-10 air quality analysis with their application. The Department's review memorandum, which includes the findings, conclusions, and discussion of the permit conditions needed to protect the Alaska Ambient Air Quality Standards (AAAQS), is provided in Appendix A of this TAR..

5.2.2. State Emission Standards

As described in 18 AAC 50.544(c)(2), a minor permit classified under 18 AAC 50.502(c) must include performance test for state emission standards for all new emission units. Emission Units 26 through 51 are classified as non-road engines, which are not included in the definition of "fuel burning equipment" under 18 AAC 50.990(39). Therefore, the non-road engines are not subject to the following state emission standards.

5.2.2.1. Visible Emissions

Emission Units 23 through 25 as contained in Table 1 Minor Permit Emission Unit Inventory, contained in Permit No. AQ0068MSS01 are new units authorized by this minor permit. They are fuel burning equipment, thus are subject to 18 AAC 50.055(a) for visible emissions.

UOCC did not provide an initial visible emission standard compliance demonstration for these units. Therefore, the permit requires UOCC to conduct an initial visible emissions compliance demonstration within 30 days after beginning operation of Emission Units 24 and 25 under this permit. The permit requires UOCC to demonstrate initial compliance for Emission Unit 23 by certifying that this unit burns only gas as fuel in the first operating report.

5.2.2.2. Particulate Matter

Emission Units 23 through 25, as contained in Table 1 Minor Permit Emission Unit Inventory, contained in Permit No. AQ0068MSS01 are new units authorized by this minor permit. They are fuel-burning equipment and are subject to 18 AAC 50.055(b) for PM emissions.

The Permittee provided a PM grain loading compliance demonstration as part of the application. Therefore the Department did not require a performance test in the permit.

5.2.2.3. Sulfur Dioxide

Emission Units 23 through 25, as contained in Table 1 Minor Permit Emission Unit Inventory, contained in Permit No. AQ0068MSS01 are new units authorized by this minor permit. They are fuel burning equipment subject to 18 AAC 50.055(c) for sulfur compound (expressed as SO_2) emissions.

UOCC provided an SO_2 exhaust concentration compliance demonstration, showing that the diesel fuel fired equipment will comply with the standard as long as they use fuel with sulfur less than 0.75 wt%S, as part of the application. The Department will require UOCC to monitor, record and report the sulfur content of fuel used in these units.

5.2.3. Maintenance Requirements

The permit includes maintenance requirement as described in 18 AAC 50.544(c)(3).

5.3. General Recordkeeping, Reporting, and Certification Requirements

All air quality control permits must contain procedures for recordkeeping, reporting, and certification.

Information request and certification requirements of the minor permit are specifically required under 18 AAC 50.200 and 18 AAC 50.205, respectively.

5.4. Terms to Make Permit Enforceable

The minor permit contains additional requirements as necessary to ensure that the Permittee will construct and operate the stationary source in accordance with 18 AAC 50, as described in 18 AAC 50.345(c)(1) and (2) and (d) – (g). These requirements are listed in the minor permit under "Terms to Make Permit Enforceable."

5.5. General Source Test Requirements

The minor permit contains the general source testing requirements and the applicable references to appropriate methods contained in 40 CFR 60.

6. PERMIT ADMINISTRATION

UOCC may operate under the conditions of Minor Permit No. AQ0068MSS01 upon issuance.

APPENDIX A MODELING REVIEW MEMORANDUM DATED 06/25/08

(Inserted as a word document, formatting and page numbers may be different from original)

MEMORANDUM

State of Alaska
Department of Environmental Conservation
Division of Air Quality

TO: File

DATE: June 25, 2008

FILE NO.: AQ0068MSS01

THRU: Alan Schuler
Environmental Engineer
Air Permits Program

PHONE: 269-7577
FAX: 269-7508

FROM: Patrick Dunn.
Environmental Engineer Associate
Air Permits Program

SUBJECT: Review of UOCC's King Salmon Platform Portable Drilling Ambient Assessment

Note: This revision supersedes the May 28, 2008 version of the Department's modeling review memorandum for the King Salmon Project. Per the applicant's request, the Department corrected the application date and clarified a section of text. The Department made no other changes to the memorandum.

This memorandum summarizes the Department's findings regarding the off shore King Salmon Platform (KSP) portable drilling ambient analysis submitted by Union Oil Company of California (UOCC). UOCC submitted the analysis in support of their February 26, 2008 application for Air Quality Control Minor Permit No. AQ0068MSS01. As described in this memorandum, UOCC's assessment adequately shows that operating their emission units within the requested constraints will not cause or contribute to a violation of the Alaska Ambient Air Quality Standards (AAAQS) provided in 18 AAC 50.010.

BACKGROUND

UOCC submitted an application for Air Quality Control Minor Permit No. AQ0068MSS01 on February 26, 2008 for the Cudd 340 portable drill rig operation on the KSP. UOCC is seeking to operate the portable drill rig for no more than 12 months. The KSP is an existing stationary source permitted under Operating Permit No. AQ0068TVP01 and Construction Permit No. 0123-AC008

This project is classified under 18 AAC 50.502(c)(2)(A) because the drill rig is a portable oil and gas operation. A portable oil and gas operation requires modeling for the AAAQS per 18 AAC 50.540(c)(2)(B). UOCC did not submit a modeling protocol to the Department for this project.

The Department previously approved the ambient demonstrations that UOCC submitted in support of their Air Quality Control Construction Permit No. 0123-AC008. The Department's previous findings are documented in the July 23, 2001 memorandum, "UNOCAL King Salmon Modeling Review

UOCC also previously modeled the KSP in 1996 based on a September 1995 modeling protocol approved by the Department with comment. The Department however, did not review the 1996 modeling analysis.

APPROACH

UOCC used computer analysis (modeling) to predict the ambient impacts of Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), and particles up to 10 micrometers in diameter (PM-10). Hoefler Consulting Group (Hoefler) conducted the analysis on behalf of UOCC.

UOCC conducted a cumulative impact analysis to determine the impacts from the proposed drill rig. UOCC developed a worst-case, generic approach for characterizing the drilling operations. Worst-case annual and short term average impacts were calculated for the proposed drill rig based on 12 months of continuous operation (i.e., 8760 hours).UOCC did however assume only four of 14 distillate-fired heaters would operate at one time due to operational procedures. The Department found that this assumed limit is not required to protect the AAAQS (See Emission Rates and Stack Parameters Section below).

UOCC added the drill rig impacts to the most recent previously modeled impacts in order to determine the cumulative impact. The date of the previous modeling assessments vary by pollutant, as did the approach. The 2001 KSP modeling analysis only addressed SO_2 impacts. However, it was a full impact analysis which included off-site sources. UOCC added the maximum drill rig impacts to the maximum impacts from the 2001 analysis (regardless of the receptor location) to obtain the worst-case total SO_2 impact.

The 1996 KSP modeling analysis included NO_2 and PM-10 but was not a full impact analysis. UOCC also added turbine subsequent to the 1996 analysis. Therefore, UOCC modeled the NO_2 and PM-10 impacts for the drill rig, the turbine, the on-shore off-site sources and the off-shore off-site sources in separate modeling runs and added the maximum impacts to the 1996 modeled maximum impacts. All maximum impacts were added together regardless of the receptor location.

UOCC's approach for all three pollutants is conservative and therefore acceptable.

Model Selection

There are a number of air dispersion models available to applicants and regulators. The U.S. Environmental Protection Agency's (EPA) lists these models in their *Guidelines on Air Quality Models* (Guideline). UOCC used the EPA's *Off-Shore Coastal Dispersion* (OCD) model (version 5) for the ambient analysis of all off-shore sources. OCD is an appropriate model for this part of the analysis.

UOCC used the EPA's *Industrial Source Complex Short-Term 3 (ISCST3)* model for the ambient analysis of all land based sources. All land-based sources were off-site sources. ISCST3 is an appropriate model for this part of the analysis. UOCC used the current version of ISCST3 (version 02035).

Meteorological Data

OCD requires hourly meteorological data to estimate plume dispersion. UOCC used one year (August 1, 1993 through July 31, 1994) of Tyonek platform data. This data set was collected as part of a PSD monitoring program and has been used for previous Cook Inlet ambient analyses. Therefore, the Department found the Tyonek off-shore data appropriate since it adequately represents the meteorology at the proposed sites.

OCD also requires on-shore meteorological data in order to estimate the impact from off-shore sources at on-shore locations. UOCC used data from Beluga, which has been standard practice for off-shore applicants. Department found the Beluga on-shore data appropriate since it adequately represents the on-shore meteorology at the proposed sites

ISCST3 also requires hourly meteorological data to estimate plume dispersion. UOCC used one year of Kustatan surface data and Anchorage National Weather Service upper air data. The data period is concurrent with the OCD data period.

Ambient Air Boundary and Receptor Grid

For purposes of air quality modeling, "ambient air" means outside air to which the public has access. Ambient air typically excludes that portion of the atmosphere within a source's boundary.

UOCC defined the ambient air boundary by a circle centered at the drilling platform area with a radius of 100 meters. They used the following receptor grid density:

- 10 meter receptor spacing along the ambient air boundary.
- 50 meter receptor spacing from the ambient air boundary to a distance of 500 meters in each cardinal direction.
- 100 meter receptor spacing extending from the 50 meter grid out to a distance of 1 kilometer from the ambient air boundary in each cardinal direction.
- 250 meter receptor spacing extending from the 100 meter grid out to a distance of 2 kilometers from the ambient air boundary in each cardinal direction.
- 500 meter receptor spacing extending from the 250 meter grid out to a distance of 5 kilometers from the ambient air boundary in each cardinal direction.
- 1000 meter receptor spacing extending from the 500 meter grid out to a distance of 10 kilometers from the ambient air boundary in each cardinal direction.

This grid is consistent with other recent Cook Inlet platform modeling analyses. The Department also confirmed the adequacy of the receptor grid for the current analysis. However, due to the poor graphics capability within the OCD model, the Department used Microsoft Excel to plot the receptor coordinates for the OCD receptor grids for the drill rig and the off site sources into Microsoft Excel. UOCC's grid is adequate for modeling the maximum impact from the proposed emission units.

Load Screening Analysis

The Department frequently asks applicants to conduct a load analysis of their larger emission units to determine the worst-case stack conditions. UOCC assumed all operations occur under full load. This is an appropriate assumption for drilling operations.

Emission Rates and Stack Parameters

UOCC included the Cudd 340 drill rig unit and well servicing equipment in the analysis. These units include drill rig engines along with supporting heaters, light plants and ancillary equipment.

UOCC assumed continuous operation of all drill rig units (i.e., 8760 hours). As mentioned in the Background Section UOCC assumed that only four of the 14 distillate-fired heaters would operate at one time. This type of assumption would typically lead to a permit condition that restricts concurrent operation. However, the Department questioned whether this type of limit was needed in the KSP case to protect the AAAQS. The Department therefore pro-rated the annual and short term modeled impacts as a quick method to conservatively estimate the unrestricted impacts. Most of the maximum impacts using this very quick and conservative approach were less than the AAAQS. The maximum NO_2 impact was the only exception. The Department then modeled the drill rig with all 14 distillate heaters operating simultaneously and found that a concurrent operating limit is not needed to protect the NO_2 AAAQS.

Horizontal/Capped Stacks

Horizontal or downward pointing stacks can be handled by the OCD model by using the stack orientation angle setting for a particular emission unit. UOCC used this feature for horizontal pointing stacks on the portable drill rig.

Stack Heights

Stack height can be a critical component of an ambient demonstration, especially when an emission unit is subject to downwash. Therefore, including minimum stack height requirements in the permit is sometimes warranted.

The Department is not including the emission units modeled stack heights as a permit condition because the impacts are well below the AAAQS.

Downwash

Downwash refers to conditions where the plume pattern is influenced by nearby structures. An oil or gas platform presents an obstacle to airflow over the water that can lead to downwash. The OCD model incorporates algorithms to account for downwash based on the dimensions of platform structures and stack heights.

UOCC set the building width to the width of the platform and the building height was set to the approximate height of the solid structures on the platform. UOCC's approach is appropriate.

Ambient NO_2 Modeling

The modeling of ambient NO_2 concentrations can sometimes be refined through the use of ambient air data or assumptions UOCC used the national default ambient NO_2-to-NOx ratio of 0.75, as provided in EPA's *Guideline on Air Quality Models*, to refine the estimated ambient NO_2 concentrations. The 0.75 ratio is appropriate for this analysis.

Ambient SO_2 Modeling

SO_2 emissions are directly related to the amount of sulfur in the fuel. Diesel fuel is limited to 0.5 percent by weight by the American Society of Testing and Materials. This was the assumed sulfur concentration for all diesel fired emission units. UOCC used a hydrogen sulfide (H_2S) limit of 2000 ppm for the one emission unit (Tioga heater) on the drill rig operated on fuel gas. This is consistent with the 2000 ppm H_2S fuel gas limit used in the 2001 modeling analysis. This H_2S fuel gas limit is a permit condition for the KSP established in Construction Permit No. 0123-AC008 and was carried forward into the operating permit.

Off-site Impacts

In a cumulative impact analysis, the applicant must include impacts from large sources located within 50 km of the applicant's significant impact area (SIA). These impacts from "off-site" sources are typically assessed through modeling.

As mentioned in the Background Section UOCC had previously performed a full impact analysis for SO_2 in 2001. Therefore UOCC used the results of the 2001 SO_2 analysis to account for the impact of off-site sources in the current project.

To account for off-site source impacts for SO_2 and PM-10 in the current project UOCC used the "Q/d" method to assess which source should be included in the ambient analysis. The Q/d method compares the off-site source's ton per year emission rate (Q) with the distance (d) in kilometers. If the Q/d ratio is greater than 20, then the off-site source should be included in the ambient analysis. If the Q/d ratio is less than 20, then the off-site source may be considered for culling. The distance value is dependent on the averaging period that is being evaluated. For annual averaging periods, "d" is the distance between

the SIA and the off-site source. For short-term averaging periods, "d" is the distance between the applicant's source and the off-site source.

UOCC included all Cook Inlet area stationary sources in their Q/d analysis. As shown in Table C-3 in the Ambient Air Quality Impact Analysis section of their application several Cook Inlet area stationary sources were excluded in the ambient analysis for NO_2 and all Cook Inlet area stationary sources were excluded in the ambient analysis for PM-10 based on the Q/d method. The Department found that these sources were appropriately excluded in the ambient analysis.

Background Concentrations

The background concentration represents impacts from sources not included in the modeling analysis. Typical examples include natural, area-wide, and long-range transport sources. The background concentration must be evaluated on a case-by-case basis for each ambient impact analysis. Once the background concentration is determined, it is added to the modeled concentration to estimate the total ambient concentration.

UOCC used background pollutant concentrations measured at the Tesoro refinery for the SO_2 background concentrations. This is consistent with the 2001 modeling analysis and is still acceptable.

For the NO_2 and PM-10 background concentrations UOCC used the maximum combined background and offsite concentrations summarized by the Department during a review of onshore assessments conducted between 1997 and 2003. While this is not a standard approach, the values used by UOCC are larger and therefore more conservative than the background concentrations used in other Cook Inlet area modeling analyses. The Department therefore accepts UOCC's approach.

RESULTS AND DISCUSSION

The impacts from all of the drill rig and previous modeling assessments, along with the cumulative impacts are shown in Table 1.

Table 1 – Drill Rig and Previous Modeled Impacts

Air Pollutant	Avg. Period	Cudd 340 Drill Rig Maximum Modeled Conc ($\mu g/m^3$)	Off-shore Sources Maximum Modeled Conc ($\mu g/m^3$)	On-shore Sources Maximum Modeled Conc ($\mu g/m^3$)	Turbine Maximum Modeled Conc ($\mu g/m^3$)	King Salmon Platform Maximum Modeled Conc[a] ($\mu g/m^3$)	Cumulative Conc ($\mu g/m^3$)
NO_2	Annual	20.95	0.77	1.16	0.04	16	39
SO_2	3-hr	96.17	N/A[b]	N/A[b]	N/A[b]	245	341
	24-hr	25.19	N/A[b]	N/A[b]	N/A[b]	76	101
	Annual	5.51	N/A[b]	N/A[b]	N/A[b]	13	19
PM-10	24-hr	13.67	0.0	N/A[c]	0.1	8	22
	Annual	2.99	0.0	N/A[c]	0.0	1	4

Table Notes
a – NO_2 and PM-10 impacts from 1996 modeling analysis, SO_2 impacts from 2001 modeling analysis.
b – Included in King Salmon Platform impacts.
c – All sources removed in Q/d analysis.

The resulting total impacts (cumulative plus background) are shown below in Table 2. All of the total impacts are less than the respective AAAQS. Therefore, UOCC has demonstrated compliance with the AAAQS.

Table 2 – Maximum AAAQS Impacts
King Salmon Platform

Air Pollutant	Avg. Period	Cumulative Conc[a] ($\mu g/m^3$)	Bkgd Conc ($\mu g/m^3$)	TOTAL IMPACT: Cumulative plus bkgd ($\mu g/m^3$)	Ambient Standard ($\mu g/m^3$)
NO_2	Annual	39	29	**68**	100
SO_2	3-hr	341	352	**693**	1,300
	24-hr	101	53	**154**	365
	Annual	19	2	**21**	80
PM-10	24-hr	22	57	**79**	150
	Annual	4	12	**16**	50

Table Notes
a – From Table 1.

It is important to note that since ambient concentrations vary with distance from each source, the maximum values shown represent the highest value that may occur somewhere in the local airshed. They do *not* represent the highest concentration that could occur at *all* locations in the area.

CONCLUSION

The Department reviewed UOCC's portable drilling rig modeling analysis and concluded the following:

1. The NO_2, SO_2, and PM-10 emissions associated with operating the stationary source within the requested operating limits will not cause or contribute to a violation of the AAAQS provided in 18 AAC 50.010.
2. UOCC's modeling analysis fully complies with the requirements of 18 AAC 50.540(c)(2).
3. UOCC conducted their modeling analysis in a manner consistent with EPA's *Guideline on Air Quality Models*.

The Department has developed new conditions in the air quality control minor permit to ensure compliance with the ambient air quality SO_2 standards. These conditions are summarized below:

- Limit the sulfur content of distillate fuel to 0.5 percent by weight.
- Limit the fuel gas H_2S content to 2000 ppmv.